

Bedbugs as Pests of Poultry

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THE BEDBUG of human habitations is a much more common pest of poultry than most people realize. This article describes its habits and tells how to get rid of it in poultry plants.

VERY FEW PERSONS realize that bedbugs, which are so troublesome to human beings, also feed on other warm-blooded animals such as poultry. Frequently bedbugs get established in poultry and pigeon

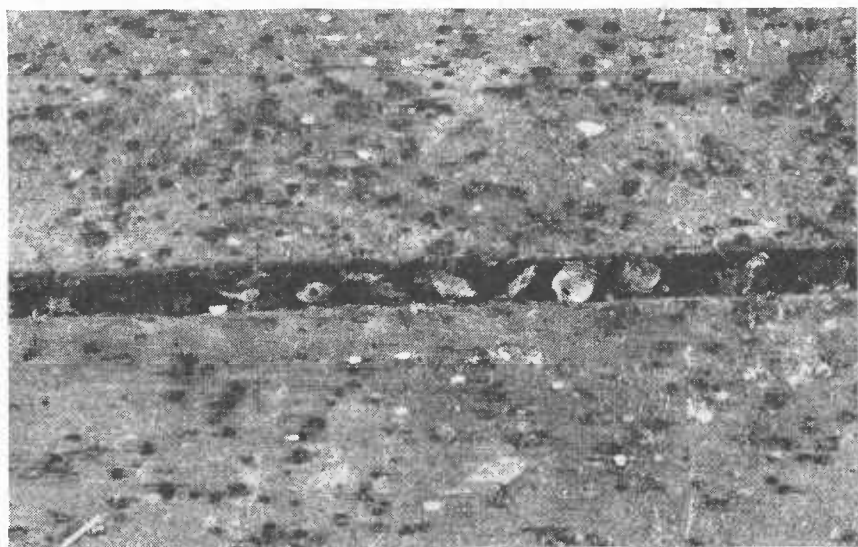


FIGURE 1.—Portion of a wooden poultry-shipping crate enlarged two diameters to show bedbugs crowded in a crack and black stains on wood formed by the drying of semiliquid bedbug excrement.

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houses, and they are often abundant in crates, both of wood and metal, in which poultry are shipped or in which they are held and fed at markets. As many as 2,500 well-grown, well-fed bedbugs were removed from the cracks of two wooden crates taken at random from one poultry market, no count being made of the multitude of eggs and very young bedbugs present. As infestations progress, the cracks may become filled with eggshells, molted skins, and dead insects, all fused into a more or less solid mass by bedbug excrement. Figure 1 is a photograph of such a crack filled with bedbugs, and it shows the surrounding wood stained with many black specks. These specks, which are the most easily observable evidence of bedbug infestation, are the dried remains of the insects' semiliquid excrement. Log houses, used for poultry on farms in many parts of the country, are especially subject to infestation by bedbugs, the cracks and the holes made by wood-boring insects in the logs making excellent retreats for the insects and giving protection not only against adverse weather but also against insecticides.

A mature, well-grown bedbug² is a wingless brown insect between one-fourth and three-eighths of an inch long. It is paper-thin when starved, but when engorged with blood it assumes the shape of the bugs shown in figure 2. It has a strong, characteristic odor.

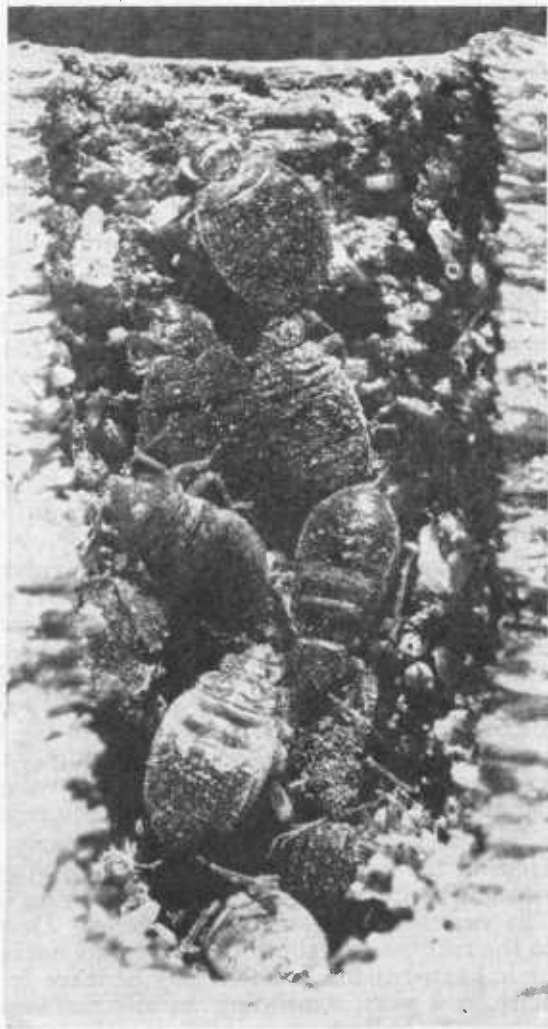


FIGURE 2.—Bedbugs, mostly well-fed, shown, greatly enlarged, in a spindle hole in a wooden crate three-eighths of an inch in diameter by eleven-sixteenths inch deep.

² BACK, E. A. BEDBUGS. U. S. Dept. Agr. Leaflet 146, 8 pp., illus. 1937.

Bedbugs are sucking insects. Their mouth parts are modified to form an elongated sharp beak, or proboscis, which can be thrust into the skin and through which blood can be drawn. It takes 3 to 5 minutes for a well-grown bedbug to become engorged with blood if its feeding is unmolested. Once filled to capacity, the bug withdraws its beak and quickly crawls to its hiding place, where it remains for several days digesting its meal. When hunger finally reasserts itself, the bedbug seeks a host for another meal.

Bedbugs normally feed at night or in subdued light. They are not known to carry any disease of poultry, but when allowed to become very abundant in henhouses or in crates in which chickens are held for fattening, they take so much blood that the chickens do not fatten, egg laying is reduced, and setting hens may become weak or even die. When bedbugs become abundant in pigeon lofts, the effect on young squabs may be disastrous. According to Levi³ the squabs from 1 to 3 days old become very anemic and, if the attack continues, die about the fourth day. The older squabs and adult birds also become pale. The latter are restless, and brooding is interfered with. The presence of bedbugs in poultry establishments is also a menace to the homes of people working in such places, as stray bedbugs are apt to be carried about on clothing and may establish infestations in furniture or bedding.

The mature female bedbug, under favorable conditions, lives from 6 to 10 months and may lay as many as 541 eggs, although 200 eggs is probably a fair average. The eggs are pearly white and about one-thirty-second of an inch long. They are deposited singly or in clusters in the crevices where bedbugs congregate. No eggs are laid when the temperature is lower than 50° F., and very few between 50° and 60°: maximum egg laying occurs only when the temperature is above 70° and when the female has ample opportunity to feed. Starved females soon stop laying eggs. At 70° F. or above, eggs hatch in 6 to 17 days, but at lower temperatures they may require 28 days.

The newly hatched, translucent, nearly colorless young bedbug feeds at the first opportunity. During growth it resembles the parent. It molts, or sheds its skin, five times before reaching maturity. The cast skins are white and fluffy. Development from hatching to the adult stage requires 4 to 6 weeks during warm summer weather or in heated rooms. There may be three or four generations or even more in a year, depending on circumstances. In unheated poultry houses the bedbug overwinters mostly in the adult form. The older bedbugs commonly go 2 weeks to 2 months without food. Because bedbugs can subsist on the blood of mice and rats as well as that of poultry, human beings, and domestic animals, the insect has been credited with living without food for periods of well over a year. It is a mystery to many poultry dealers how bedbugs can live over the winter in chicken crates used only during the summer and fall months, but usually the period of disuse is well within the capacity of the insects to exist under starvation conditions.

³ LEVI, WENDELL MITCHELL. *THE PIGEON*. 512 pp., illus. Columbia, S. C. 1941.

THE MEXICAN CHICKEN BUG AND RELATED FORMS

The Mexican chicken bug, or coruco (*Haematosiphon inodora*), is an important enemy of poultry in the semiarid and arid Southwest. It is particularly abundant in adobe chicken houses, and for this reason it is called the adobe bug locally. The chicken bug resembles the bedbug, and its habits are similar, but it does not have characteristic bedbug odor.

Several species of bugs related to the bedbug and chicken bug are commonly associated with bats and swallows. Although swallows are frequently accused of bringing bugs into poultry establishments, this is probably an unusual occurrence, as the kind of bug found in swallows' nests is rarely found in poultry houses.

CONTROL METHODS

Control of bedbugs and chicken bugs in poultry establishments requires vigilance and persistent effort. Often these pests are overlooked until they are so numerous and widespread in the plant or about the farm buildings that it is difficult to eliminate them.

The bugs and their eggs are not difficult to kill when they can be reached with insecticidal sprays. Every effort should be made, therefore, to eliminate hiding places. Unnecessary boards and trash should be removed, and when it is practicable cracks and holes should be filled with plaster, putty, or other materials. Roosts, nests, feeding batteries, and other equipment should be simple in construction and easily moved for examination and treatment.

Bugs can be killed with fumigants, such as sulfur (3 pounds burned per 1,000 cubic feet), but most poultry houses are not built tightly enough to hold the gas sufficiently long to give good results. In general, spraying with creosote oil or one of the carbolineums, as advised for the control of the fowl tick (p. 1065), is satisfactory for the treatment of infested buildings and equipment. Usually two sprayings will eliminate an infestation from a chicken house built of wood. In the case of feeding establishments where the pests are continually reintroduced, it is good practice to spray all crates once a month. Kerosene or pyrethrum-kerosene fly sprays may be employed where the staining caused by creosotes would be objectionable. In any event, the sprays must be thoroughly driven into cracks and crevices.

Pigeon lofts may be treated in the same way, but eggs and squabs may be injured by being returned to treated nests even when new nesting material is supplied. Levi (see footnote 3, p. 1070, for reference) has successfully used live steam in his large commercial pigeon plant. The steam is forced into the lofts and the temperature held at 125° F. or higher for 1 or 2 hours. The building is closed as tightly as possible with tar paper and canvas before being steamed.